

2/26/18 "Dont cry because its over, smile because it happened."-Dr. Seuss

HW: "Calculator Practice" worksheet

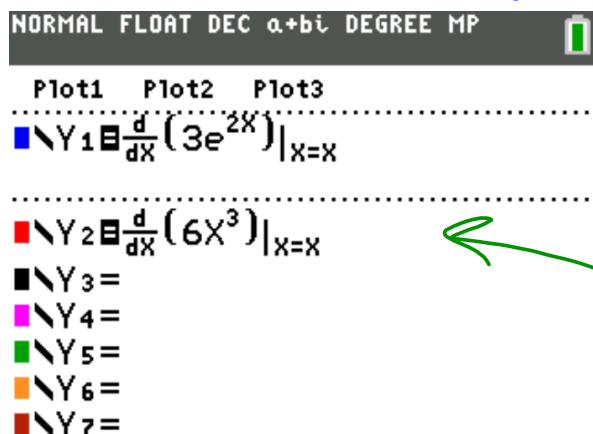
AIM: Calculator Practice?

1. Let  $f$  be the function given by  $f(x) = 3e^{2x}$  and let  $g$  be the function given by  $g(x) = 6x^3$ . At what value of  $x$  do the graphs of  $f$  and  $g$  have parallel tangent lines?

Parallel lines have same slope

⊗ Where are derivatives equal?

$$f'(x) = g'(x)$$

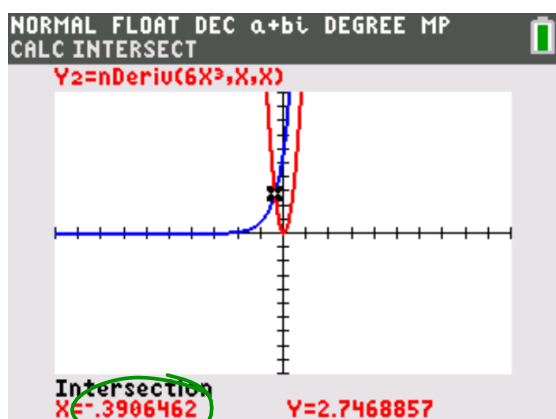


Calc:

$y =$  math

8

enter the function



Calc:

2nd

Trace


5

Enter

3 times

Choice C

3. If  $f(x) = \sqrt[5]{x^3 - 2x}$ , then  $f'(\sqrt{3}) =$

NORMAL FLOAT DEC a+bi DEGREE MP 

$$\frac{d}{dx} \left( \sqrt[5]{x^3 - 2x} \right) \Big|_{x=\sqrt{3}}$$

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Choice B

Calc:

Math

8

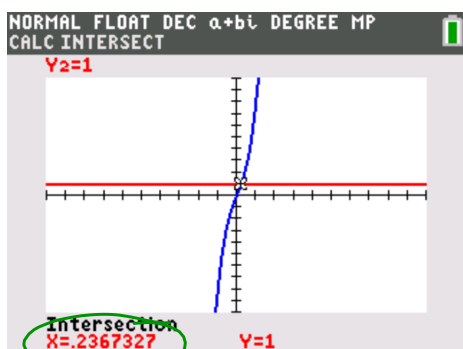


2. Which of the following is an equation of the line tangent to the graph of  $f(x) = x^4 + 2x^2$  at the point where  $f'(x) = 1$ ?

\* We need to  
know the point  
where the slope (derivative)  
is equal to 1.

↖ Slope of tangent

\* Derivative = 1



Calc:

$y_1 =$  derivative

$y_2 = 1$

[2nd] [Trace] [5] [Enter] 3 times

X-value of point

\* Plug  $x = .237$  into original to find  $y$  value of point.

$$f(.237) = (.237)^4 + 2(.237)^2$$

$$= .115$$

Point  
(.237, .115)

Slope  
1

$$y - .115 = 1(x - .237)$$

$$+ .115 \quad + .115$$


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$$y = x - .122$$

Choice D

